

REMARKS

In the Office Action dated December 16, 2003, claims 1-4, 16 and 17 were rejected under 35 U.S.C. §103(a) as being unpatentable over Matsushita et al. in view of Storch et al. Claims 5-9 were rejected under 35 U.S.C. §103(a) as being unpatentable over Matsushita et al. and Storch et al., further in view of Brookner. Claims 10, 22 and 26-31 were rejected under 35 U.S.C. §103(a) as being unpatentable over Matsushita et al., Storch et al., Brookner, further in view of French. Claims 18, 20 and 25 also were rejected under 35 U.S.C. §103(a) as being unpatentable over Matsushita et al. in view of Storch et al. and Brookner. Claims 19, 21, 23 and 24 were rejected under 35 U.S.C. §103(a) as being unpatentable over Matsushita et al., Storch et al. and Brookner, further in view of Philips.

These rejections are respectfully traversed for the following reasons.

In the subject matter in each of the independent claims of the present application, it is required that identification number of the *device*, in which a consumable item is to be employed, is generated that uniquely identifies the device. A code number range is then generated and is allocated to this *device* identification number. A reference code number range is then generated that contains reference code numbers respectively having relationships to the code numbers in the aforementioned code number range. The *device* identification number and the reference code number range are then stored in the device. A code number in the code number range is aggregated with a replacement consumable, and when a need to replace this consumable, due to its depletion, in the device is recognized, the replacement consumable, before substitution thereof in the device, is authenticated by entering the code number that is aggregated with the replacement consumable

into the device. In the device, it is checked whether the code number that is aggregated with the replacement consumable has the relationship to one of the reference code numbers in the reference code number range that is stored in the device. If this is the case, this reference code number is then consumed in the device (meaning that it is, in some suitable manner, rendered no longer usable). The device is then controlled appropriately depending on the result of the authentication.

In the inventive method and apparatus, therefore, a range of reference code numbers is allocated to, and stored with, an identification number that identifies the device (rather than the consumable). A replacement consumable is authenticated if it has a code number aggregated therewith that has a proper relationship to one of the reference code numbers in the range stored in the device. This not only authenticates the replacement consumable, but also results in that number being consumed in the stored range of numbers. This means that once the entirety of the stored range of code numbers is consumed, no replacement consumable at all can be authenticated. This allows tracking and control of the number of replacement consumables that are installed in a device, since after all of the numbers in the stored range of code numbers are consumed, the user of the device must take steps to obtain a new set of numbers to be stored in the device. When the user does so, the entity responsible for making those numbers available can take suitable steps to ensure that inappropriate usage of the device is not occurring, or has not occurred. For example, if the device is a printer of a postage meter, it is necessary for the user to periodically electronically reload credit into the device for producing franking imprints. At the time a credit reloading takes place, for example, the user of the

device can be given a set of reference code numbers to be stored in the device that corresponds, for a particular consumable, to the number of replacement consumables that should be required to implement the number of frankings that are represented by the postage credit. The next time the user requests postage credit, if the user does not also simultaneously request a new set of reference code words, it is apparent that the user has somehow defeated the authentication associated with the code word comparison, and has been using pirated or unauthorized replacement consumables. This procedure therefore provides a back-up to the authentication by code word comparison. In the method and apparatus disclosed in the Matsushita et al. reference, there is no identification number for the *device* that is employed at all, because there is no attempt in the Matsushita et al. reference to limit or control the number of replacement items that can be used by a given device. The only concern of Matsushita et al. is that a "new genuine" product should always be used. By "new genuine" product, Matsushita et al. mean not only an authentic product, but a product that is not a "regenerated" version of a depleted, but authentic, product. This is explained at column 5, lines 37-43 of Matsushita et al.

For this purpose, three different memories (ROM 202, RAM 203 and RAM 204) are used in Matsushita et al. No number are "consumed" in any of these memories, as explicitly required in each of the independent claims of the present application.

For a particular product, usage thereof is monitored in an appropriate manner and usage data are generated and entered into the RAM 203. So-called "life data" are stored in the ROM 202, and when the usage data stored in the RAM 203 reach a

level represented by the life data stored in the ROM 202, it is determined that the product has come to the end of its life (Matsushita et al., column 5, line 55-59).

If and when such end of life of the product is determined, a code word or identifier associated with a replacement product is compared with a list of numbers stored in the RAM 204. This is *not*, however, for authenticating the product as being a genuine product. In accordance with the teachings of Matsushita et al., as described at column 5, lines 10-22, the replacement product is judged as authentic by comparing whether the last two digits of a multiplication step performed on a code number associated with the product coincide with the last two digits of a stored manufacturer's identity number. The purpose of comparing the number associated with the replacement product with the list stored in the RAM 204 is, as noted above, to be sure that the replacement product is not a regenerated product that has already been used in the apparatus. Each time a replacement product is installed in the apparatus, its code number is stored in the RAM 204. If a depleted product is attempted to be "regenerated" and subsequently re-installed in the apparatus, its identification number, by virtue of its previous use, will be present in the RAM 204 and the attempted reuse of this regenerated product can then be detected.

Thus, in this respect the Matsushita et al. reference operates in a manner completely opposite to the method and apparatus of the invention, since each time a replacement product is installed in the apparatus, its identification number is *added* to the contents of the RAM 204. By contrast, in the method and apparatus of the present invention, when a replacement consumable is authenticated, the code number associated therewith is consumed.

Moreover, even though the manufacturer's code is stored in the apparatus disclosed in the Matsushita et al. reference, there is no teaching in that reference that this manufacturer's code must be unique for every apparatus. Although it is possible that an added level of security may be obtained by giving out different numbers to different apparatus, in principle, there is no reason in the Matsushita et al. reference why the authentication procedure disclosed therein could not proceed if every manufacturer's code for every apparatus were the same.

In the substantiation of the rejection of claims 1-4, 16 and 7 in the penultimate line of page 2 of the Office Action, the Examiner cited language at column 5, lines 25-45 as teaching "consuming said one of said reference code numbers in said device." Based on the above explanation of the operation of the Matsushita et al. apparatus, however, this is not correct. There is no reference code number that is "consumed" at all during the operation of the Matsushita et al. apparatus, and in fact the opposite occurs, namely a number is *added* to the list stored in the RAM 204.

The Examiner relied on the Storch et al. reference as a secondary reference in the rejection of claims 1, 4, 16 and 17 only for the purpose of teaching "a plurality of reference code numbers respectively having relationships to the respective code numbers in the code number range." For the reasons discussed above, however, even if stored code numbers, instead of calculated code numbers, were employed in Matsushita et al., this would not alter the different manner of operation of the Matsushita et al. apparatus as discussed above.

The subject matter of claims 1-4, 16 and 17, therefore would not have been obvious to a person of ordinary skill in the art based on the teachings of Matsushita et al. and Storch et al.

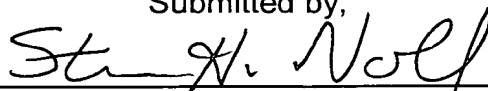
All of the other references rely on further references, in addition to the Matsushita et al. and Storch et al. references, as a basis for rejecting further claims of the application. For the reasons discussed above, even if the Matsushita et al./ Storch et al. combination were modified in accordance with the teachings of one or more of these references, the subject matter of the remaining claims still would not result, since those claims embody the method or the apparatus of the independent claims, which are not taught by the Matsushita et al./ Storch et al. combination. None of the further claims of the application, therefore would have been obvious to a person of ordinary skill in the art based on the various further modifications of the Matsushita et al./ Storch et al. combination proposed by the Examiner.

Support in this specification as originally filed for new claims 32 and 33 is present in the last five lines on page 13 through the first three lines on page 14 of the present specification, as well as page 15, lines 6-9. Support for claims 35-37 is present at page 15.

Typographical errors in the specification also have been corrected.

All claims of the application are therefore submitted to be in condition for allowance, and early reconsideration of the application is respectfully requested.

Submitted by,



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SCHIFF, HARDIN LLP
CUSTOMER NO. 26574
Patent Department
6600 Sears Tower
233 South Wacker Drive
Chicago, Illinois 60606
Telephone: 312/258-5790
Attorneys for Applicants.